

## **IN THE CLAIMS:**

Please amend the claims as follows:

1. (Currently amended) A method for the optical detection of an illuminated specimen in a plurality of detection channels, comprising:  
sensing light on a detector with multiple detection channels with an illumination light scan pass so that repeated scanning is dispensed with;  
assigning an upper [[and/or]] or lower limiting value or both values which is adjustable for [at least one] each individual channel; and  
[changing] selecting the detection channel to be detected with respect to its mode of operation when said limiting value is reached during the illumination light scan pass.
2. (Currently amended) The method according to claim 1, wherein the detection channel is switched off or its amplification is changed or feedback to [[the]] a light source is carried out to change [[the]] illumination parameters or the signals of the detection channel are not taken into consideration in further processing.
3. (Previously presented) The method according to claim 1, including carrying out pointwise illumination and detection.
4. (Previously presented) The method according to claim 2, including carrying out pointwise illumination and detection.
5. (Previously presented) The method according to claim 1, including carrying out parallel illumination and detection.
6. (Previously presented) The method according to claim 2, including carrying out parallel illumination and detection.
7. (Previously presented) The method according to claim 5, wherein a microtiter plate is

8. (Previously presented) The method according to claim 6, wherein a microtiter plate is illuminated and detected.
9. (Currently amended) The method according to claim 1, wherein a spectral splitting of ~~[[the]]~~ light emitted by ~~[[the]]~~ a specimen is carried out.
10. (Previously presented) The method according to claim 6, wherein a dispersive element is provided followed by a multichannel detector for spectral splitting.
11. (Previously presented) The method according to claim 1, wherein illumination is provided by laser light in a laser scanning microscope.

Please add the following new claims:

12. (new) A method for controlling light to a laser scanning microscope comprising:

performing an illumination scan pass;

sending light from a specimen to a plurality of wavelength dependent detection channels

and;

determining which of the detection channels have light intensity above a set threshold present wherein only the scan pass is required so that the specimen is not overloaded with light and repeated scanning is dispensed with.

13. (new ) the method of claim 12 wherein the step of determining which of the detection channels have light above a set threshold present further comprises:

sending the light from the detection channels to amplifiers to create an amplified signal;

sending the amplified signal to a threshold window comparator capable of making a comparison of the amplified signal based on a high or low threshold or both and wherein the threshold is adjustable;

not passing any amplified signal which does not meet the threshold specified in the comparator to a register while passing the remaining amplified signals to the register wherein each detection channel is represented in the register; and

reading an output of register to determine if light is present in the detection channels.